## REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons which follow. After amending the claims as set forth above, claims 1-3 and 5-27 are now pending in this application.

Claims 1 and 17 stand rejected under 35 U.S.C. § 112, second paragraph. The Examiner did not apply any other rejections to the pending claims. Applicants gratefully acknowledge the Examiner's indication that the claims drawn to the elected species are allowable. Reconsideration and withdrawal of the outstanding rejection is respectfully requested.

### The Election-of-Species Requirement Should Be Withdrawn

The Examiner has required an election between compounds of the formulae I-V, stating that the species are patentably distinct. For the reasons set forth below, the restriction requirement should be withdrawn.

The Commissioner may require restriction between two or more independent and distinct inventions, pursuant to 35 U.S.C. § 121, with the caveat that, "[i]f the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to distinct or independent inventions." M.P.E.P. § 803 (emphasis added). In this application, the Examiner has twice searched and examined the claims on the merits, including all the species I-V. Thus, the Examiner should follow the directive of Section 803, M.P.E.P., and examine the entire application.

#### *Procedural History*

The above-captioned application was filed on September 10, 1999. On September 13, 2000, the PTO issued a first non-final Office Action, rejecting claims pending claims 1-17. At that time, claims 1-17 contained each of species I-V, which the Examiner now restricts. In response to the September 13th Office Action, Applicants clarified claims 1, 5, 9, and 10 by amendment, canceled claim 4, and added claims 18-19.

On May 4, 2001, the PTO issued a second, non-final Office action, rejecting all of the pending claims, 1-3 and 5-19. At the time, claims 1-3 and 5-19 contained each of species I-V, which the Examiner now restricts. In response Applicants amended claims 1, 9, and 10 and added claims 20-26. These claims likewise contained species I-V; thus, these species not only were claimed at the time the application was filed but also were searched and examined twice. At no time before January 2, 2002, did the PTO issue a restriction. In other words, the subject application had been pending for twenty-seven (27) months, and Applicants had received two complete Office Actions on the merits, before the PTO required restriction between groups I-V.

Section 811 of the M.P.E.P. states that the examiner should make a restriction requirement as early as possible in the prosecution, in the first action, if possible, and otherwise as soon as the need for a proper requirement develops. In this case, the Examiner has twice searched and examined all of the species originally claimed when the application was filed in September, 1999. At this stage of the prosecution, is no serious burden on the Examiner to examine groups I-V together. The Examiner need only update the search made before the Office Action of May 4, 2001, which examined the claims in their entirety. Therefore, the Examiner should continue examination of claims 1-3 and 5-26 on the merits, even though the application may include claims to distinct or independent inventions. *See*, M.P.E.P. § 803.

During a series of telephone conversations with the undersigned on May 6th and 7th, 2002, Examiner Fortuna and Supervisory Primary Examiner Walker indicated that upon filing a request the PTO would withdraw the holding of non-responsiveness issued on April 24, 2002 and also withdraw the January 2, 2002 election of species requirement. Examiner Fortuna informed the undersigned on May 7, 2003, that claims 1-3 and 5-26, with species I-V would be examined together. On May 8, 2002, Applicants filed the Request required by the PTO. Contrary to the representation expressly made to Applicants' representative, however, that the species would be examined together, the PTO now maintains the improper election of species requirement. The election of species requirement is improper for at least three reasons. First, there is no serious burden on the Examiner to search and examine groups I-V together as these groups were twice searched and examined during the prosecution of the application. Second, the PTO expressly indicated to Applicants during the May 7,

2003 telephone interview that they were going to examine groups I-V together. In fact, during subsequent telephonic status inquires on June 25, 2002, and November 12, 2002, the Examiner indicated that the delay in issuing a subsequent Office Action (a delay of over eight months from the date Applicants submitted their May 8, 2002 Request) was due to the Examiner considering all the species anew. Finally, the Examiner has not applied any prior art against the elected species III. The Examiner has also withdrawn the prior rejections applied against the claims. Applicants have addressed herein the 112, second paragraph rejections set forth in the Office Action. As such, Applicants are entitled to a Notice of Allowance of claims 1-3 and 5-27.

**The Rejections Under 35 U.S.C. 112, Second Paragraph Should Be Withdrawn**

Claims 1 and 17 stand rejected under 35 U.S.C. § 112, second paragraph as allegedly being confusing. Claim 1 has been amended herein to delete step (c). This step has been presented in new claim 27. With respect to the basis of the rejection that the term "" is confusing, Applicants respectfully disagree. The claim language that the Examiner alleges is confusing is clear. To the contrary, this language distinctly points out and particularly claims the subject matter that Applicants regard as their invention. The claim language recites, for example, that the substituent R is an "alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino." As this language clearly sets forth that the R substituent may be, for example, an aryl or an aryl group having a hetero atom therein. It is well settled that if the language of the claim is such that a person of ordinary skill in the art could interpret the metes and bounds of the claim so as to understand how to avoid infringement, a rejection of the claim under 35 U.S.C. § 112, second paragraph is inappropriate. See *Morton Int'l, Inc. v. Cardinal Chem. Co.*, 5 F.3d 1464, 1470, 28 USPQ2d 1190, 1195 (Fed. Cir. 1993).

Further evidence that this claim language is proper is that the PTO has issued many patents with the same language that the Examiner now alleges is confusing. Exhibits A-D are illustrative of patents containing similar language to that set forth in claim 1. For example, claim 10 of U.S. Patent No. 6,478,968 (Exhibit A) recites that the solid catalytic phase comprises a catalyst based on Raney nickel or Raney cobalt

and *optionally comprising* a doping element. Likewise, claim 4 of U.S. Patent No. 6,083,401 (Exhibit B) recites that the substituents in the formula I represent atoms required to complete the ring and *optionally comprise* oxygen, sulfur or nitrogen heteroatoms on the ring. Just as these claims allow the person of ordinary skill in the art to interpret the metes and bounds of the claim so as to understand how to avoid infringement, so does the language in claim 1. As such, amended claim 1is proper.

Claim 17 has been amended herein to more clearly present the claimed process. Withdrawal of the rejection is earnestly solicited.

**Conclusion**

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

Date July 28, 2003

By _____

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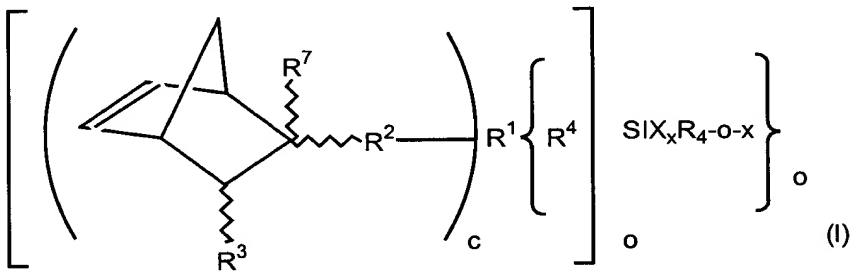
**MARKED UP VERSION SHOWING CHANGES MADE**

Below are the marked up amended claim(s):

1. (3x amended) A process for producing a semipermeable membrane, comprising

(a) preparing a low-viscosity to resinous liquid produced by hydrolytic polycondensation of a material comprising at least one compound selected from the group consisting of:

(i) a compound of formula I




(I)

wherein

R = alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

$R^1$ = alkylene, arylene, arylenealkylene or alkylenearylene comprising between 0 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

$R^2$ = alkylene, arylene, arylenealkylene or alkylenearylene comprising between 0 to 15 carbon atoms, further optionally comprising an atom

or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

$R^3$ = hydrogen, $R^2$-$R^1$-$R^4$-$SiX_xR_{3-x}$, carboxyl, alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

$R^4$ = $(CHR^6\text{-}CHR^6)_n$- , where n = 0 or 1, -$CHR^6$-$CHR^6$-S-$R^5$-, -CO-S-$R^5$-, $CHR^5$-$CHR^6$-$NR^6$-$R^5$-, -Y-CS-NH-$R^5$, -S-$R^5$, -Y-CO-NH-$R^5$, -CO-O-$R^5$-, -Y-CO-$C_2H_3$(COOH)-$R^5$-, -Y-CO-$C_2H_3$(OH)-$R^5$- or –CO-$NR^6$-$R^5$-,

$R^5$ = alkylene, arylene, arylenealkylene or alkylenearylene comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

$R^6$ = hydrogen, alkyl or aryl having 1 to 10 carbon atoms,

$R^7$ = hydrogen, alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

X = hydrogen, halogen, hydroxyl, alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl or $NR''_2$, where $R''$ = hydrogen, alkyl or aryl,

Y = -O-, -S- or -$NR^6$-,

Z = -O- or -$(CHR^6)_m$-, where m = 1 or 2,

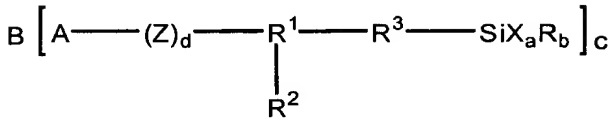
a = 1, 2 or 3, where b = I if a = 2 or 3,

b = 1, 2 or 3, where a = 1 if b = 2 or 3

c = I to 6,

x = 1, 2 or 3, where a + x = 2, 3 or 4;

(ii) a compound of formula II



(II)

wherein

B = a straight-chain or branched organic radical having at least one C = C double bond and 4 to 50 carbon atoms,

R = alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

$R^3$ = alkylene, arylene, arylenealkylene or alkylenearylene comprising between 0 to 10 carbon atoms, wherein any of these radicals optionally is interrupted by an atom or group selected from the group consisting of oxygen atom, sulfur atom, and amino group,

X = hydrogen, halogen, hydroxyl, alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl or $NR''_2$, where $R''$ = hydrogen, alkyl, aryl or alkylaryl,

A = O, S or NH if d = 1 and Z = CO and

$R^1$ = alkylene, arylene or alkylenearylene comprising between 1 to 10 carbon atoms, wherein any of these radicals optionally is interrupted by an atom or group selected from the group consisting of oxygen atom, sulfur atom, and amino group, and

$R^2$ = COOH or H,

or

A = O, S, NH or COO if d = 1 and Z = CHR′, where

R′ = H, alkyl, aryl or alkylaryl, and

$R^1$ = alkylene, arylene or alkylenearylene comprising between 1 to 10 carbon atoms, wherein any of these radicals optionally is interrupted by an atom or group selected from the group consisting of oxygen atom, sulfur atom, and amino group, and

$R^2$ = OH

or

A = O, S, NH or COO if d = 0 and

$R^1$ = alkylene, arylene or alkylenearylene comprising between 1 to 10 carbon atoms, wherein any of these radicals optionally is interrupted by an atom or group selected from the group consisting of oxygen atom, sulfur atom, and amino group, and

$R^2$ = OH,

or

A = S if d = 1 and Z = CO and

$R^1$ = N and

$R^2$ = H,

a = 1, 2 or 3,

b = 0, 1 or 2, where a+b = 3,

c = 1, 2, 3 or 4;

(iii) a compound of formula III

$$\{X_aR_bSi[(R'A)_c]_{(4-a-b)}\}_xB \quad (III)$$

wherein

A = O, S, PR'', POR'', NHC(O)O or NHC(O)NR'',

B = a straight-chain or branched organic radical derived from a compound B' having at least one (if c = 1 and A = NHC(O)O or NHC(O)NR[11]) or at least two C = C double bond(s) and 5 to 30 carbon atoms,

R = alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

R' = alkylene, arylene or alkylenearylene,

R'' = hydrogen, alkyl, aryl or alkylaryl,

X = hydrogen, halogen, hydroxyl, alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl or $NR''_2$,

a = 1, 2 or 3,

b = 0, I or 2,

c = 0 or I,

x = an integer whose maximum value corresponds to the number of double bonds in the compound B' minus 1, or is equal to the number of double bonds in the compound B' if c = 1 and A is NHC(O)O or NHC(O)NR'',

wherein said alkyl and alkenyl radicals optionally are substituted straight-chain, branched or cyclic and comprise 1 to 20 carbon atoms, the aryl optionally is a substituted phenyl, naphthyl or biphenylyl, the alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl, alkylaryl, arylalkyl, arylene, alkylene and alkylenearyl radical is a derivative of said alkyl or aryl radical;

(iv) a compound of formula IV

$$Y_aSiX_xR_{4-a-x} \qquad (IV)$$

wherein

R = alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

X = hydrogen, halogen, hydroxyl, alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl or $NR''_2$, where R'' = hydrogen, alkyl, aryl or alkylaryl,

Y = an organic radical having 1 to 30 carbon atoms and 1 to 5 mercapto groups,

a = 1, 2 or 3,

x = 1, 2 or 3, where a + x = 2, 3 or 4;

and

(v) a precondensate derived from a compound represented by any of formulae I to IV

and wherein said hydrolytic polycondensation material further optionally comprises at least one compound selected from the group consisting of:

(1) a compound of formula V

$$X_aSiR_{4-a} \qquad (V)$$

wherein

R = alkyl, alkenyl, aryl, alkylaryl or arylalkyl comprising between 1 to 15 carbon atoms, further optionally comprising an atom or group selected from the group consisting of oxygen atom, sulfur atom, ester, carbonyl, carboxyl, amido, and amino,

X = hydrogen, halogen, hydroxyl, alkoxy, acyloxy, alkylcarbonyl, alkoxycarbonyl or $NR''_2$, where R'' = hydrogen, alkyl, aryl or alkylaryl,

a = 1, 2 or 3; and

(2) a precondensate derived from a compound of formula V;

wherein said hydrolytic polycondensation is conducted by adding a substance selected from the group consisting of water, a solvent, and a condensation catalyst, and wherein said molar ratio of the sum of the compound(s) of formulaes I, II, III and IV to the sum of compound(s) of formula V is between 1:0 and 1:20,

(b) forming a membrane from the said low-viscosity to resinous liquid, and

[(c) optionally drying the membrane, and

(d)] (c) curing the membrane by forming an organic network using a process selected from the group consisting of thermal curing, radiation-induced curing and chemically induced curing, optionally or if necessary, in the presence of additives which are addition-copolymerizable and/or can be subjected so an addition and/or polyaddition reaction.

17. (Amended) A process for separating mixtures of substances selected from the group consisting of gas separation, reverse osmosis, electrodialysis, dialysis, pervaporation, microfiltration, ultrafiltration and hyperfiltration, wherein said process comprises [effecting a separation] separating said substances using the semipermeable membrane as claimed in claim 16.